INDEX.

Accumulation of Oil, factors influencing, 883-884
Acid Sludge, acid recovery, 267
Acids, petroleum, 404
Algæ, conversion into bitumen, 74-114
Amylbenzene, octane number of, 772
Analysis, chemical, progress of, 1930-31, 436-438
  progress of, 1930-31, 420-428
Annual Dinner, fourteenth, 921-942
Annual General Meeting, nineteenth, 226-244
Annual Report of Council, 1931-32, 217-225
Antifreeze Compounds, 405
Aromatics, determination of, 735-750, 1010-1014
  hydrogenation of, 179-182
  knock-rating of, 771, 772, 751-778
  lead susceptibilities of, 776
  presence of in petroleum fractions, 752-754
  specific refractions of, 738
Asphalts, analysis and testing of, 402-403, 427-428
  nomenclature of, 391-392
  progress of, 1930-31, 391-403
  specifications of, 401
Asphaltic Cements, physical properties of, 957-991
  tensile strength of, 980-983
  penetration and, 984-986

Bases, petroleum, 404
Bell and Graddy Well, Texas, fire extinction at, 57-65
Benzene, knock-rating of, 758, 771, 772
  S.I.T. of, 548
Benzole, progress of, 1930-31, 413-414
  S.I.T. of, 555
Bitumen, asphaltic, recovery of from solution, 846-849
  ductility effect on mixtures, 978-980
Bituminous Mixtures. *See* Asphaltic Cements
Boeton Asphalt, 393
Butane, recovery of, 701-715
Butene-1, octane numbers of, 772
Butylbenzenes, octane numbers of, 771
n-Butylcyclohexane, octane numbers of, 771
n-Butylcyclopentane, octane numbers of, 771
Butyltoluene, octane numbers of, 772

Carbon Black, 405
Carnuba Wax, paraffins from by hydrogenation, 1007-1009
Cementing of Wells, effect of chlorides, 992-1006
  mud and cement mixtures, 53-56
  use of accelerator, 197-212
Cetene Number, measurement of S.I.T., 569-576
Chemistry, petroleum, progress of, 1930-31, 429-438
Co-operation, 234-244
Cracked Distillates, acid treatment of, 723-728
Cracking, chemistry of, 430-433
  electrical, 294
  liquid-vapour phase, 284-291
  plant for, 305-311
    corrosion of, 307-309
  progress of, 1930-31, 282-313
  temperature and pressure effects, 292
  vapour-phase, 291-293
  Weymann process, 294
  with oxidation, 294-295
Cyclic Hydrocarbons, knock-rating of, 758-760
Cyclohexane, knock-rating of, 758, 771
  lead susceptibilities of, 776
Cyclopentane, octane numbers of, 771
  lead susceptibilities of, 776
Cylinder Stock, hydrogenation products, 600
p-Cymene, octane numbers of, 772

Decane, octane number of, 334
Diesel Oil, S.I.T. of, 555, 565
Dimethylcyclohexanes, octane numbers of, 771
1-3-Dimethylcyclopentane, octane numbers of, 771
Displacement Pump, 448-451, 650-653
Distillates, cracked, treatment of, 295-305, 723-728
Distillation Equipment, progress of, 1930-1931, 314-328
Drilling of Wells, at an angle, 663
  small diameter, 643-644

Earth Pressures, 641-643
Edeleanu Process, 900-916
Emulsions, in producing wells, 655-656
  progress of, 1930-1931, 400

Engines, aircraft, progress of, 1930-31, 347-349
commercial car, progress of, 1930-31, 342-347
compression-ignition, experience of in L.G.O.C. service, 866-873
internal-combustion, progress of, 1930-31, 329-349
locomotive, progress of, 1930-31, 388-390
marine, progress of, 1930-31, 385-386
motor-car, progress of, 1930-31, 341-342
motor cycle, progress of, 1930-31, 349
oil, progress of, 1930-31, 383-390
for road transport, progress of 1930-31, 386-388
S.30, operating conditions for, 765
stationary, progress of, 1930-31, 383-385
Epure Bitumen, natural filler in, 971-974
Estonia, oil-shale and Shale-oil, hydrogenation of, 833-845
shale-oil, treatment of, 183-186
Ethyl Alcohol, S.I.T. of, 548
Ethylbenzene, octane numbers of, 771, 772
Ethylcyclohexane, octane numbers of, 771
Ethylcyclopentane, octane numbers of, 771
Ethylene, octane number of, 772

Fire Extinction, Bell and Graddy well, Texas, 57-65
Flow Tubing and Chokes, 643
Flow of Oil, controlled, gas-oil ratio and, 638-640
problems of, 645-646
uncontrolled, dangers of, 631-633
Fluid Flow, critical region in pipes, 607-625
Fractionating Towers, progress of, 1930-31, 316-318
Fractions, petroleum, examination of, 735-750, 1010-1014
Fuel, heavy oil engine, specification of, 872-873
Fuel Oil, analysis and testing of, 427
Diesel, progress of, 1930-31, 378-382
progress of, 1930-31, 382
S.I.T. of, 548, 555

Gas, natural, helium content determination, 406
surplus, disposal of, 663-665
Gas Fields, wet, 647
Gas Lift, production after, 787-804
Gas Oil, hydrogenation of, 602-603
progress of, 1930-31, 376-378
S.I.T. of, 548, 549
use of, 261
Gas Wells, beaning of, 649
Gases, analysis of, 145-178
cracking, treatment of, 303-304
refinery, gasoline from, 261
use of, 260
Gasoline, analysis and testing of, 420-424
anti-knock characteristics, 331-338
cracked, acid treatment of, 723-728
octane numbers of, 262, 289
hydrogenation of, 604-606
natural, rectification of, 701-715
progress of, 1930-31, 329-349
refining of, progress of, 1930-31, 261-263
S.I.T. of, 548, 555
vapour pressure determination, 716-722
Geology, application to oilfield study, 881-897
progress of, 1930-31, 245-249
Grease, lubricating, analysis and testing of, 428
Gum, formation and inhibition of, 350-356

Heat Exchangers, 319
Helium, 406
Heptane, knock-rating of, 334, 758
specific refractions of, 1011, 1013
Heptane-1, octane numbers of, 772
Hexahydroxylenes, knock-rating of, 758
Hexane, octane number of, 334
specific refractions of, 1011, 1013
Hexene-1, octane numbers of, 772
Hydrofining, 604
Hydrogen, S.I.T. of, 548
Hydrogenated Safety Fuel, 606
Hydrogenation, chemistry of, 434-435
progress of, 1930-31, 595-606

Insecticides, progress of, 1930-31, 604-607
Institution of Petroleum Technologists, Journal of, 73
special summer meeting, 733-734
Ionian Islands, geology of, 779-786
petroleum in, 783-785
Iraq Asphalt, 392

Jentzsch S.I.T. Apparatus, 553-561

Kerosine, analysis and testing of, 424
hydrogenation of, 599-602
illuminating power of, 904
progress of, 1930-31, 357-361
S.I.T. of, 548
solvents from, 906
sulphur content of, 906
Knock-rating, lead tetraethyl influence on, 187-196, 526
use of strobophonometer, 513-525
Krupp S.I.T. Apparatus, 551-552

Lamp Black, 405
Low-Temperature Carbonisation, progress of, 1930-31, 415-419
Low-Temperature Tar, progress of, 1930-31, 415-419
Lubricants, progress of, 1930-31, 362-375
Lubricating Oil, analysis and testing of, 424-426
fractionation of with acetone, 943-952
heavy oil engine, specification of, 873
hydrogenation of, 599-601
refining of, progress of, 1930-31, 264-267
S.I.T. of, 548, 555
synthetic, 433-434
viscosities of, 266
treatment with sulphur dioxide, 908-909
Lubrication Congress, Strasbourg, 1931, 135-143

Maps, stratigraphical, 886
production, 887-889
Mesitylene, octane numbers of, 771
Methylcyclohexane, knock-rating of, 758, 771
Methylcyclopentane, octane numbers, of, 771
Mining for Oil, 667-668
Montan Wax, composition of, 409

Naphthene-Paraffin Mixtures, aniline points of, 743-750
Naphthenes, knock-rating of, 751-778
presence of in petroleum fractions, 755-758
specific refractions of, 738
Nomenclature of Petroleum, standardization progress, 874-880
Nonane, octane number of, 334
specific refractions of, 1011
Nonene-1, octane numbers of, 772

Octane, octane number of, 334
Octane Number, reference fuel A2 for, 765
Octanes, specific refractions of, 1011, 1013
Octene-1, octane numbers of, 772
Oil Measures, gas in, 640
Oil Sands, depleted, state of, 656-658
rejuvenation with air or gas, 660-663
Oil Shale, Estonia, hydrogenation of, 833-845
Oilfield, study of, 881-897
Oilfield Practice, progress of, 1930-31, 250-255
Oilfield Waters, analysis of, 817-832
calcium estimation in, 830-832
sulphate radicle estimation, benzidine method, 817
Olefines, lead susceptibilities of, 776
octane numbers of, 772
Origin of Oil, conversion of algæ into bitumen, 74-114

Paraffin Distillate, hydrogenation products, 601
Paraffin Wax, crystallisation of, 37-52
progress of, 1930-31, 407-409
Paraffination of Wells, 654-655
Paraffins, from Carnuba wax, 1007-1009
specific refractions of, 738, 1011
Paraflow, 264
Pentane, octane number of 334
Pentene-1, octane number of, 772
Pipe-Lines, pipe specifications, 256
progress of, 1930-31, 256-259
Production Curves, formulæ for, 805-815
Production of Oil, energy in relation to, 692-700
mechanical, 649-654
problems in, 629-691
recovery of dregs, 665-668
Propane, recovery of, 701-715
n-Propylbenzene, octane numbers of, 771-772
n-Propylcyclohexane, octane numbers of, 771
n-Propylcyclopentane, octane numbers of, 771
Propylene, octane numbers of, 772
Pro-Rationing of Oil Output, 634-635
Pumping, well, displacement, 445-512, 650-653, 791-801
cycle of operations, 793-796
well equipment, 797-801
wire rope, 953

Rectification, progress in, 701-715
Redwood Medal, 1932, presentation of, 898-900
Refinery Control Equipment, progress of, 1930-31, 318-319
Refinery Heaters, progress of, 1930-31, 315-316
Refining, Asia, progress of, 1930-31, 269-272
Europe, progress of, 1930-31, 273-281
U.S.A., progress of, 1930-31, 260-268
Residues, hydrogenation of, 598-599
Reviews:
" Bibliographies on Chemistry," 531
" Chemical Encyclopædia," 729
" Chemical Engineering and Chemical Catalogue," 531
" Chemistry at the Centenary Meeting of the British Association," 215
" Colloid Chemistry," 626-627
" Dampfdrucke Binaerer Gemische," 531
" Deep Borehole Surveys and Problems," 213-214
" Fuel Research Board Report, 1930-31," 70-72
" Fuel Testing," 627-628
" Geophysical Prospecting, 1932," 531
" Gewinnung des Erdöl durch Bohren," 528-529
" Handbook for Electric Welders," 732
" History of the Oil Engine," 955 956
" Hydrierung der Kohlen, Teere und Mineröle," 214
" Index to A.S.T.M. Standards," 144
" Internal Combustion Engine," 68–69
" Leitfaden der Tiefbohrtechnik," 531
" Lubricating Oil Tests," 144
" Modern Coal Cleaning Plant," 816
" Oil Economics," 730-732
" Oil Well Completion and Operation," 67
" Petroleum Development and Technology, 1932," 954
" Petroleum in the U.S. and Possessions," 527
" Principles and Practice of Geophysical Prospecting," 527-528
" Report of A.S.T.M. Committee D-2," 954-955
" Reports on Applied Chemistry, 1931," 215-216
" Sands, Clays and Minerals," 955
" Scientific Principles of Petroleum Technology," 529-530
Reviews—*cont.*
" Symposium on the Effect of Temperature on the Properties of Metals," 215
" Technical Data on Fuel," 880
" Tunnard's Tanker Tables," 816
Road Making, asphalts for, 396-399
tar for, 399-400
Roofing Materials, progress of, 1930-31, 401
Russia, petroleum industry of, 1930-31, 439-443

Sections, oilfield, 884-886
Shale Oil, cracking of, 280
Estonia, hydrogenation of, 833-845
Solvent Naphtha, hydrogenated, 606
Solvents, progress of, 1930-31, 409
Special Products, progress of, 1930–31, 404-412
Specific Heat, petroleum fractions, relation to other properties, 850-865
Spontaneous Ignition Temperature, cetene number measurement, 569-576
comparison with engine tests, 562-569
German investigations, 548-562
Jentzsch apparatus, 553-561
Krupp apparatus, 551-552
R.A.E. apparatus, 533-547
Stratigraphy, study of, 882
Strobophonometer, 513-525
Structure, study of, 882-883
Sulphur Dioxide, liquid, refining with 900-916
Swabbing, automatic, 653-654
Switch Oil, S.I.T. of, 555

Tar Oil, S.I.T. of, 548, 549
Testing, oil, progress of, 1930-31, 420-428
standardization progress, 874-880
Toluene, knock-rating of, 758, 771, 772
Total Heat, petroleum fractions, relation to other properties, 850-865
Transformer Oil, analysis and testing of, 426-427
Trinidad Branch, First Annual Dinner, 124-134

Unit Operation of Oilfields, 630-637
United States, asphalt production, 1930, 66

Vapour Pressure, determination of, 716-722

Venezuela, petroleum fractions, properties of, 851-852
specific heats of, 853-854
total heats of, 855-856

Wells, cleaning of, 658-660
freezing of, 647-649

Weymann Process of Cracking, 294

White Spirit, 906
progress of, 1930-31, 357-361

World, petroleum production, 1927-31, 443-444

Xylene, knock-rating of, 758, 771, 772

Zante, bibliography on, 27-28
crude oil, analysis of, 25
geology of, 1-28
historical references to oil, 2
petroleum in, 19-26
origin of, 25-26
topography of, 3-14